

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT STATEMENT OF BASIS

CONDITIONAL MAJOR (FINAL PERMIT) No. F-06-029 (REVISION 1)

CONTINENTAL CRUSHING AND CONVEYING

SALYERSVILLE KY.

JUNE 30, 2008

BRIAN BALLARD, P.E., REVIEWER

SOURCE I.D. #: 021-153-00026

SOURCE A.I. #: 2870

ACTIVITY #: APE20080002

F-06-029 (REVISION 1):

Permit F-06-029 (Revision 1) is being issued in response to an application for a name/ownership change received by the Division on June 23, 2008. Division records have been updated to reflect the requested name change from Continental Conveyor & Equipment Co., to Continental Crushing & Conveying and that the company owner is Joy Global Inc. The application also included notification of the addition of a natural gas fired burn-off oven to remove dried paint from paint hooks and equipment. The Division has determined that the burn-off oven and associated equipment are subject 401 KAR 59:010, New Process Operations. The burn-off oven and the associated afterburner have been determined to be insignificant activities for this source pursuant to 401 KAR 52:030, Section 6. Although this activity is designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

F-06-029 - SOURCE DESCRIPTION:

Continental Conveyor and Equipment Company, located in Salyersville, Kentucky, manufactures conveyor equipment. The steps of the manufacturing process at the facility are metal working operations, welding operations and surface coating operations. The facility was constructed in 1971. At that time two surface coating operations were installed, a spray booth and a dip coating line. An additional dip coating line was installed this year.

A source-wide application was submitted on January 19, 2006. Prior to submittal of that application, the source had not submitted a registration or permit application to the Kentucky Division for Air Quality (KYDAQ). The source does not currently hold any permits or registrations issued by KYDAQ. The application submitted on January 19, 2006 requested emission limitations for VOC, individual HAP and combined HAP. The facility initially requested a VOC emission limit of 240 tons per twelve-month period to preclude PSD but not Title V major source status.

KYDAQ concluded after reviewing the January 19, 2006 application that 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations (59:225) would apply to the new dip coating line. Given the coating formulations presented in the January 19, 2006 application, the facility would have needed to control 85 percent of the VOC emissions in order to comply with 59:225. The application did not address compliance with 59:225. The facility was sent a notice of deficiency letter by KYDAQ on April 18, 2006. The letter directed the facility to submit an application addressing compliance with 59:225 by May 19, 2006.

F-06-029 - SOURCE DESCRIPTION (CONTINUED):

KYDAQ received correspondence from the facility on May 18, 2006 by e-mail requesting the following emission limits:

- VOC – 90 tons per rolling twelve-month period
- Individual HAP – 9.0 tons per rolling twelve-month period
- Combined HAP – 22.05 tons per rolling twelve-month period

The correspondence also included updated emission calculations for the surface coating operations at the facility. The May 18, 2006 correspondence indicates the facility plans to use tert-butyl acetate or parachlorobenzotrifluoride as reducing solvents. Parachlorobenzotrifluoride is one of the compounds identified as not being a VOC in 401 KAR 52:001, § 1 (77).

Tert-butyl acetate is identified in 40 CFR 51.100(s)(5) as being a VOC for purposes of all record keeping, emissions reporting, photochemical dispersion modeling and inventory requirements which apply to VOC. The regulation specifies that tert-butyl acetate shall be uniquely identified in emission reports. The regulation further specifies that tert-butyl acetate is not a VOC for purposes of VOC emissions limitations or VOC content requirements. Kentucky has not yet adopted the Federal VOC definition. As of now tert-butyl acetate is a VOC in Kentucky for all purposes, including VOC emission limitations. Kentucky's regulation is currently being revised to adopt the Federal VOC definition.

A site visit was conducted on June 9, 2006. It was learned during the course of the site visit that the coating formulations indicated in the May 18, 2006 submittal were preliminary and that these formulations would likely be changed by the time the new reducing solvents were implemented. It was requested that an updated permit application be submitted reflecting the most up to date coating formulations. This updated permit application was received on July 11, 2006. The new coating formulation uses a larger ratio of parachlorobenzotrifluoride than was indicated in the May 18, 2006 submittal, resulting in less VOC emissions per gallon of coating applied. The hourly usage rates of coatings were also changed. The hourly usage rate of coating in SCSB-1 is now based on an average application rate of 2.56 gallons per hour. This hourly rate was obtained by dividing annual paint/solvent usage by 5,000 hours of operation. The hourly usage rates of coating in SCDT-1 and SCDT-2 are now based on average application rates of 3.69 gallons per hour and 4.11 gallons per hour respectively. These hourly rates were obtained by dividing annual paint/solvent usage by 7,500 hours of operation for each dip coating operation.

An air toxics dispersion modeling report was submitted by e-mail on July 19, 2006. The digital files used in the modeling were also submitted by e-mail on July 19, 2006. The report and digital files were reviewed and were found to be satisfactory. The results of the air dispersion modeling indicate that emissions of HAPs from the Continental Conveyor facility do not exceed any acute short-term or chronic cancer long-term inhalation Dose Response Values (DRVs) for screening risk assessments, specified by the EPA, Office of Air Quality Planning and Standards (OAQPS).

COMMENTS:

The emissions of VOC (including volatile HAPs) from surface coating operations are determined by a material balance assuming the entire content of VOC in the paints and reducing solvents is emitted.

COMMENTS (CONTINUED):

The hourly coating usage at each surface coating operation used for the purpose of calculating potential to emit is specified in the application as being determined by annual paint and solvent usage divided by 5,000 hours of operation for SCSB-1 and 7,500 hours of operation for each of SCDT-1 and SCDT-2. The potential to emit of all pollutants is based on operating 8,760 hours per year. Worst-case emission factors based on the data from Material Safety Data Sheets (MSDS) supplied with the July 11, 2006 updated permit application are used to determine the potential to emit for pollutants. Particulate matter and particulate matter 10 microns or less (PM/PM₁₀) emissions from the spray booth are determined using a transfer efficiency of 50 percent. The filter is assumed to control 90 percent of PM/PM₁₀ emissions. PM/PM₁₀ emissions from the dip coating lines are determined using a transfer efficiency of 95 percent. The transfer efficiencies used are based on the *Self-Audit and Inspection Guide for Facilities Conducting Cleaning, Preparation, and Organic Coating of Metal Parts*, U.S. EPA document # 305-B-95-002, August 1998.

The applicable regulations to the surface coating operations are 401 KAR 61:020, Existing Process Operations and 401 KAR 59:010, New Process Operations as a result of particulate emissions. The compliance requirement for the spray booth (SCSB-1) with the opacity standard will consist of weekly qualitative visual observations and Method 9 readings if visible emissions are seen. The compliance requirement for SCSB-1 with the mass standard will consist of ensuring that filters are in place and monitoring air velocity through the filters daily when a coating is applied in the booth. 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations will not apply to the new dip coating line due to the facility accepting a federally enforceable emission limit for VOC below 100 tons per year.

Emissions of PM/PM₁₀ and HAPs from plasma arc cutting are determined using throughput data and emission factors supplied in the application. The emissions factors in the application are referenced from the document, *Section 313 Reporting Issue Paper, Clarification and Guidance for the Metal Fabrication Industry – Oxygen Cutting Releases pp 16*, Office of Toxic Substances, U.S. EPA, January 1990. 401 KAR 59:010 is applicable as a result of emissions of particulate matter.

Emissions of PM/PM₁₀ and HAPs from welding are determined using throughput data and emission factors supplied in the application. The emission factors in the application are referenced from *AP 42, Fifth Edition, Volume I, Chapter 12: Metallurgical Industry, Section 19, Electric Arc Welding*, Tables 12.19-1 and 12.19-2, Gas Metal Arc Welding (GMAW), Electrode type E70S. 401 KAR 59:010 is applicable as a result of emissions of particulate matter.

Emissions of VOC from the parts washer are determined using throughput data and the MSDS supplied in the application. The entire content of VOC in the solvent is assumed to be emitted.

Emissions of criteria pollutants from the liquefied petroleum gas (LPG) fired space heaters are determined using the total capacity in million BTUs per hour for all 103 space heaters. Emission factors for criteria pollutants from LPG combustion are referenced from U.S. EPA's *Factor Information Retrieval Data System (FIRE)*, Version 6.24.

EMISSION AND OPERATING CAPS DESCRIPTION:

The facility will be subject to emission caps of ninety (90) tons per rolling twelve-month period for VOC and nine (9) tons per rolling twelve-month period for individual HAP. These emission caps will preclude the following regulations: 401 KAR 51:017, Prevention of significant deterioration of air quality, 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations and 401 KAR 63:002, § 3 Incorporation by Reference, (sss), 40 CFR 63.3880 to 63.3981 (Subpart Mmmm), “National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products”. The facility permit will not specify an emission cap of 22.05 tons per rolling twelve-month period for combined HAPs because the potential source-wide facility emissions of combined HAP does not exceed 22.05 tons. Construction of an emission source, alteration of production rates, or any other action that may require submittal of an application or notification, shall be done according to the procedures identified in 401 KAR 52:030.

PERIODIC MONITORING:

ID	Description	Applicable Regulation(s)	Monitoring Requirements
01	Spray Booth #1	401 KAR 61:020	<ul style="list-style-type: none">• Monitor twelve-month rolling total VOC and individual HAP emissions monthly.• Perform weekly qualitative visual observations of the opacity of emissions from the stack, perform Method 9 as necessary.• Monitor air velocity through booth filters daily.
02	Dip Tank #1	401 KAR 61:020	Monitor twelve-month rolling total VOC and individual HAP emissions monthly.
03	Dip Tank #2	401 KAR 59:010	

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.